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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/987,775	12/09/97	GREFENSTEIN	<sup>mk</sup> 47587/48070

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IM62/1015

EXAMINER

KRUER, K

ART UNIT

PAPER NUMBER

1773

6

DATE MAILED: 10/15/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

08/987,775

Applicant(s)

Grefenstein et al

Examiner

Kevin Kruer

Group Art Unit

1773

☒ Responsive to communication(s) filed on Jul 23, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-5 and 7-20 is/are pending in the application.

Of the above, claim(s) 9-14 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-5, 7, 8, and 15-20 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Election/Restriction***

1. Claims 9-14 withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to a non-elected process of making. Election **without** traverse was acknowledged in Paper No. 8.

### ***Claim Objections***

2. The examiner requests that applicant reword the claims in order to make them more readable. There are numerous ambiguities in the current claims. For example, it is unclear what the individual weight percentages are based upon. Furthermore, isn't A2 the graft shell? In claim 1, component A21, the claim should read "styrene, a substituted styrene, a methacrylate, or mixtures thereof." Ditto for component b1. Also, the examiner takes the position that the phrase, "a component, wherein component C comprises. . ." and similar phrases for other components, are wordy and could be written more clearly. Claim 3 should read "a layer (2') comprising impact modified polymethyl methacrylate, polycarbonate, or the molding composition of layer (1) as set forth in claim 1 . . . ." Claim 4 should read "The laminated sheet or film of claim 1 . . . ." "The number and letter designations make the claims read awkwardly. In claim 19, there is no need for the word "thereof." In claim 1, Applicant claims "a substrate layer comprising a molding composition comprising. . ." Is applicant claiming a layer or a composition? The examiner believes the substrate should be referred to either as a "layer" or a "composition."

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The dashes make the claim indefinite. It is unclear whether the limitations within the dashes read into the claim.
5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Is a middle layer present only when there is polycarbonate in the molding composition?
6. Claim 2 recites the limitation "molding composition layer (1)" in line 6 of the claim. There is insufficient antecedent basis for this limitation in the claim. Applicant has defined (1) as the substrate.
7. Claim 5 recites the limitation "component (1)" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim. Applicant has defined (1) as the substrate.
8. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Does the claim read on polyphenylene ether or blends thereof, or does the claim read on blends of any of the enumerated resins? Also, does the substrate always have a thickness of 90-990 microns, or only when it comprises a polyphenylene ether?
9. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. When does it contain colorants? Is it only an option when both layers comprise the

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same composition? Is the total thickness always 100-1000 microns, or only when the top and bottom layer comprise the same composition?

10. Claim 5 recites the limitation "them" in line 12 of the claim. There is insufficient antecedent basis for this limitation in the claim. Applicant has defined (1) as the substrate.

11. Claim 5 recites the limitation "same molding compounds" in line 13 of the claim. There is insufficient antecedent basis for this limitation in the claim. The top layer is never said to comprise a molding compound.

12. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Do the layers, once formed, have the claimed MFI ratios?

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by DeWitt III (Pat. NO. 4,107,235). DeWitt teaches an impact modified acrylic sheet (col 1, lines 66+) coated with a lower alkyl methacrylate, such as methyl methacrylate (col 3, lines 25-55).

15. Claims 3, 5, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Ellison (Pat. No. Re35,894). Ellison teaches a molded article which comprises a weatherable topcoat, a molded polymer substrate (abstract), and a binding layer (col 5, line 50 - col 6, line 30).

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Polymethyl methacrylate may be utilized as the weatherable topcoat (col 4, lines 24-61) and has a thickness of 12.7 to 7,600 microns (col 6, lines 43-48). The binding layer may be an acrylic adhesive and has a thickness greater than 6.35 microns (col 6, lines 30-34). The molded article in Ellison may be in the form of an automotive exterior bodywork component (see Fig 4) and is comprised of a polymer with engineering properties such as polycarbonates (col 5, lines 33-35). It is important to note for claim 17 that the examiner takes the position that a laminate comprising two adjacent polycarbonate layers is identical to a laminate comprising a single carbonate layer.

*Claim Rejections - 35 USC § 103*

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 1, 3-8, 15, 16, and 18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellison et al. (Pat. No. Re 35,894) in view of Fischer et al. (Pat. No. 5,747,568). Ellison teaches a molded article which comprises a weatherable topcoat, a molded polymer substrate (abstract), and a binding layer (col 5, line 50 - col 6, line 30). Polymethyl methacrylate may be utilized as the weatherable topcoat (col 4, lines 24-61) and has a thickness of 12.7 to 7,600 microns (col 6, lines 43-48). The binding layer may be an acrylic adhesive and has a thickness greater than 6.35 microns (col 6, lines 30-34). The molded article in Ellison may be in the form of an automotive exterior bodywork component (see Fig 4) and comprise a polymer with engineering properties (col 5, lines 33-35).

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Ellison does not teach that the substrate may comprise the claimed composition.

However, Fischer teaches a molding material comprising 30-80% of an elastomeric grafting base and 20-70% by weight of a shell grafted onto the grafting base (abstract). The grafting base comprises 90-99.9% of at least one alkyl acrylate and 0.1-10% by weight of a polyfunctional crosslinking monomer. The shell comprises 0-100% styrene or substituted styrenes, and 0-100% of an acrylonitrile or methyl methacrylate. The above described particles are dispersed in a hard matrix comprising 60-90% styrene or substituted styrene and 10-40% acrylonitrile (col 1, line 48- col 2, line 16). The composition may further contain up to 30% by weight of additives such as fibers (col 4, lines 26-34). This composition is suitable for molded automobile parts because of its good weather resistance, aging resistance, and high impact strength (col 4, lines 46-53).

Furthermore, such ASA resins are known to be engineering plastics. It would have been obvious to one of ordinary skill in the art to utilize the composition as taught in Fischer as the substrate of the laminate taught in Ellison because Ellison teaches that polymers suitable for automotive parts and possessing engineering properties may be used as the substrate and Fischer teaches an engineering plastic composition which may be used in the construction of automotive parts.

Ellison also does not teach the ratio of the MFI values of the components should be no more than 3:1. However, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to process the components of the laminate taught in Ellison so that the ratio of the MFI values of the components was not more than 3:1 so to ensure uniform flow of the components. This is important when the laminate are coextruded because it is desirable that the components are extrudable at approximately the same rate.

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Note that the examiner takes the position that the combination of references read on claim 6 because the interlay layer may comprise the same composition of the top layer. Therefore, unless Applicant can show otherwise, the examiner takes the position that a laminate comprising the claimed substrate and two layers of PMMA is materially identical to a laminate comprising the claimed substrate can on PMMA layer. Furthermore, it is important to note that the examiner takes the position that the relied upon combination of references reads on claim 6 because Ellison teaches that the top coat may comprise pigments (col 3, lines 48+).

18. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellison in view of Fischer as applied to claims 1, 3-8, 15, 16, and 18 above, and further in view of Ogura et al. (Pat. No. 5,773,139). Ellison in view of Fischer relied upon as above. Ellison nor Fischer teaches that a transparent protection film may be applied to the outside of the topcoat. However, Ogura teaches that a film may be applied to the outside of an impact resistant layer in order to prevent pieces of the impact resistant layer from scattering when that layer is impacted (col 6, lines 16-19). Thus, it would have been obvious to one of ordinary skill in the art to apply a protective film to the outside of the laminate taught in Ellison to prevent shattering of the polymethyl methacrylate layer.

### ***Response to Arguments***

19. Applicant's arguments with respect to claims 1-8 and 15-20 have been considered but are moot in view of the new ground(s) of rejection. However, in hopes of expediting the prosecution of the claims, the examiner would like to take this opportunity to respond to some of the arguments which might still be relevant.



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Applicant argues that it would not have been obvious to one of ordinary skill in the art to replace the substrate of Ellison with the claimed ASA polymer. However, the examiner would like to point out that the teaching of Ellison is not limited to ABS substrates, but rather to substrates with engineering properties. Since ASA is a known engineering plastic, and because Ellison and Fischer are both drawn to molded automotive parts. While Applicant's specification seems to support the argument that superior results are obtained when ASA is used as the substrate rather than ABS, Applicant is unfairly comparing the claimed embodiment to the embodiment in the prior art which is least similar.


Applicant also argues that Fischer does not teach that the composition should be used in a laminate. The examiner would like to point out that Fischer was never relied upon for such a teaching. Rather, Ellison taught that PMMA coatings are desirably coated onto engineering plastic substrates used in automotive parts because decorative and weatherable purposes.

### *Conclusion*

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rosenau et al. (Pat. No. 5,821,302) and Lin et al. (Pat. No. 5,795,936) teaches the claimed composition.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is (703) 305-0025. The examiner can normally be reached on Monday-Friday from 7:00 a.m. to 4:00 p.m.

Kevin R. Kruer  
Patent Examiner



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